IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Harris et al.	EXAMINER:	Smith, Sheila B
SERIAL NO.:	10/647,424	GROUP:	2681
FILED:	08/25/2003	CASE NO.:	CE10278R
ENTITLED:	SYSTEM AND METHOD FOR CONTROLLING THE OPERATING CHARACTERISTICS OF A BUFFER		

Motorola, Inc.
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July 13, 2006

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Commissioner:

Pursuant to 37 C.F.R. §41.37, the appellants hereby respectfully submit the following Brief (in triplicate) in support of their appeal.

(1) Real Party in Interest

The real party in interest is Motorola, Inc.

(2) Related Appeals and Interferences

There are no related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1-13 and 18-21 are pending and presently stand twice and finally rejected and constitute the subject matter of this appeal. Claims 14-17 have been canceled.

(4) Status of Amendments

An Amendment was filed on February 21, 2006, after the Final Rejection mailed on December 14, 2005, canceling claims 14-17. The Advisory Action of April 21, 2006, indicates that this Amendment was considered but is ambiguous regarding whether the Amendment was entered. A phone call was made to the Examiner to confirm the entered status of canceled claims 14-17. The claims as thus amended are included in Appendix A attached hereto.

(5) Summary of Claimed Subject Matter

Embodiments of the present invention concern a method, such as that recited by claim 1, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth, playing the communications received at the play-out buffer to a recipient at the destination mobile unit, determining the remaining play-out depth of the play-out buffer in the destination mobile unit, and sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a method, such as that recited by claim 2, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the

method comprising encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate, receiving the indication from the destination mobile unit and adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a method, such as that recited by claim 6, of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit, receiving an indication from the destination mobile unit, and adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a system, such as that recited by claim 10, that comprises a source mobile unit transmitting voice communications, a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output, and a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a wireless transmission device, such as that recited by claim 18, that comprises a transceiver having an indication message input, a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input, a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input, and a controller that is operably coupled to the

storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register. (FIG. 4; [0047-0055])

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-13 and 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477"). The appellants dispute these rejections.

(7) Argument

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §112, first paragraph

None.

Rejections under 35 U.S.C. §112, second paragraph

None.

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §103

Group 1 – Claims 1 and 4

Claim 1 provides (underlined language being relevant to the argument presented below):

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 1. '477 [0014] reads:

> [0014] Turning now to FIG. 1, a block diagram of a transmitter and receiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end, but for simplification, consider only a single transmitting and receiving pair for now. Transmitter 104 incorporates a buffer 108 with a variable delay designated D1 in the digital signal path that is controlled in a manner as will be described later. This buffer 108 can be at any suitable location within the digital signal path prior to wireless transmission over a VOIP air interface 112. At the receiver end, a receiver 116 incorporates a second buffer 120 that has a variable associated delay designated D2.

'477 [0020] reads (emphasis added):

> [0020] FIG. 2 illustrates a method 200 for monitoring and adjusting the soft capacity of the system to accommodate instantaneous excess packet transmission needs starting at 202. **This method assumes that the status of D2 buffers 120 is tracked (or alternatively fed back) and analyzed at the associated transmitter 104. Transmitter 104, using internal processing capabilities, then determines at 206 if there are any D2 buffers 120 that are near zero delay**. Near zero can be defined as a delay less than a predetermined threshold, e.g. 5 ms in the current example. If not, no action is taken. If so, a determination is made as to whether the delays are due to congestion at 210. If not, no action is taken. If so, a determination is made as to whether a slight temporary degradation of S/I+ N is acceptable to overcome the current congestion. If not, no action is taken. **If so, the associated packets are sent** to prevent D2 buffer 120 under-runs at 218. Control then returns to 206 and the status of the D2 buffers 120 is continuously

monitored to determine the need for adjustment in the soft capacity of the system. This method can be used in conjunction with other methods that do not impact the overall system's performance and can thus be balanced using prioritization arrangement in conjunction with other techniques.

'477 [0026] reads:

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. Vocoder 624 operates with its rate controlled by processor 620. In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.

The passages of '477 cited by the Examiner above clearly disclose that the **transmit-side determines whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 1 recites sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. Thus, the **transmit-side is sent an indication when a predetermined threshold is reached in the receive-side play-out buffer**. In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the transmit-side is sent an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 1, or therefore, all the limitations of dependent claim 4, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 1 and 4 are fully

patentable over the cited reference and request that the Examiner be REVERSED.

Group 2 – Claims 2, 3 and 5

The arguments in *Group 1* above are also applicable to claim 2, being dependent upon claim 1. Moreover, in addition to the assertions above, claim 2 provides (underlined language being relevant to the argument presented below):

> 2. (original) The method of claim 1 comprising:
>
> encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;
>
> receiving the indication from the destination mobile unit; and
>
> adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 2. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted below in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 2 recites (emphasis added), "**adjusting the coding rate** of the communications sent from the source mobile unit to the destination mobile unit **as a function, at least in part, of the indication received from the destination mobile unit**." Thus, since the indication indicates that the remaining play-out depth of the play-out buffer in the destination mobile unit has reached a predetermined threshold, the coding rate is adjusted as a function of the remaining play-out depth of the play-out buffer reaching the predetermined threshold. Therefore, the appellants submit that the disclosure of '477 neither teaches nor suggests what is claimed in claim 2.

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to

claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network**." The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 2 is clearly different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of claim 2, or therefore, all the limitations of dependent claims 3 and 5, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 2, 3 and 5 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 3 – Claims 6-9

Claim 6 provides (underlined language being relevant to the argument presented below):

> 6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:
>
> encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;
>
> <u>receiving an indication from the destination mobile unit; and</u>
>
> <u>adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 6. '477 [0020] is quoted above in the arguments under *Group 1*. '477 [0026-0027] reads (emphasis added):

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in

a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. **Vocoder 624 operates with its rate controlled by processor 620.** In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.

[0027] At the transceiver 616 (illustrated operating as the receiver side), a receiver 630 is coupled to buffer 120 that has variable delay D2. **The state of the link quality, status of D2 and other information can be fed back to transceiver 604 via transmitter 636 through air interface 112 to receiver 610.** (Note again that the voice buffer and other blocks associated with transmitter 636 are not shown for simplicity.) A control processor 650 at transceiver 616 operates in a manner similar to that of processor 620 in transmission mode and in receive mode receives the first packet in an utterance, decodes the value of D1 and calculates the amount of initial delay required to maintain a fixed delay for D1+D2. Alternatively, control processor 620 can make that calculation and transmit the initial value of D2 along with the first packet in an utterance (either as part of that packet or as a separate control packet).

The passages of '477 cited by the Examiner above describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 6 recites (emphasis added), "**adjusting the coding rate of the vocoder** in the source mobile unit **according to the indication received from the destination mobile unit.**"

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network.**" The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for

changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 6 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 6, or therefore, all the limitations of dependent claims 7-9, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 6-9 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 4 – Claims 10-13

Claim 10 provides (underlined language being relevant to the argument presented below):

> 10. (original) A system comprising:
>
> a source mobile unit transmitting voice communications;
>
> a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and
>
> a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and <u>forming an indication when the play-out depth reaches a predetermined threshold</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 10. These paragraphs are quoted above in the arguments under *Group 1*.

The passages of '477 cited by the Examiner clearly disclose that the **<u>transmit-side determines</u> whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 10 recites

forming an indication when the play-out depth reaches a predetermined threshold. Thus, the **receive-side forms an indication when the play-out depth reaches a predetermined threshold**. In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the receive-side forms an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 10, or therefore, all the limitations of dependent claims 11-13, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 10-13 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 5 – Claims 18-21

Claim 18 provides (underlined language being relevant to the argument presented below):

> 18. (original) A wireless transmission device comprising:
>
> a transceiver having an indication message input;
>
> a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;
>
> a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and
>
> a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 18. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted above in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 18 recites (emphasis added), "a **vocoder** having a communication

output and a control input and further having an associated **adjustable vocoder coding rate that is responsive to the control input**; and a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller **forming a signal on the control input based upon contents of the at least one indication message** present in the storage register."

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network**." The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 18 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 18, or therefore, all the limitations of dependent claims 19-21, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 18-21 are fully patentable over the cited reference and request that the Examiner be REVERSED.

(8) Conclusion

For the above reasons, the appellants respectfully submit that the rejection of claims 1-13 and 18-21 under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. is in error and should be reversed and the claims allowed.

Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc.**

Respectfully submitted,
J. Harris et al.

By: / Jeffrey K. Jacobs/

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(9) Claims Appendix

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

2. (original) The method of claim 1 comprising:

encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;

receiving the indication from the destination mobile unit; and

adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

3. (original) The method of claim 2 wherein adjusting the coding rate of the source mobile unit comprises adjusting the coding rate of a vocoder in the source mobile unit.

4. (original) The method of claim 1 wherein sending an indication comprises sending a real-time transport protocol (RTP) header.

5. (original) The method of claim 2 wherein receiving an indication comprises receiving a negative acknowledgment message for a frame.

6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:

encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;

receiving an indication from the destination mobile unit; and

adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit.

7. (original) The method of claim 6 wherein receiving an indication comprises receiving a real-time transport protocol (RTP) header.

8. (original) The method of claim 6 wherein receiving an indication comprises receiving a negative acknowledgment message.

9. (original) The method of claim 8 wherein receiving the indication comprises receiving the NAK that originated because of a request for retransmission for a frame that was originally sent more than a threshold number of seconds in the past.

10. (original) A system comprising:

a source mobile unit transmitting voice communications;

a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and

a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold.

11. (original) The system of claim 10 wherein the indication formed in the destination mobile unit is a real-time transport protocol (RTP) header.

12. (original) The system of claim 10 wherein the wireless infrastructure forms a negative acknowledgment message that is passed to the source mobile unit.

13. (original) The system of claim 10 comprising a supplemental communication channel from the destination mobile unit to the wireless infrastructure and wherein the indication is sent over the supplemental communication channel to the infrastructure and from the infrastructure to the source mobile unit.

14-17. (canceled)

18. (original) A wireless transmission device comprising:

a transceiver having an indication message input;

a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;

a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and

a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

19. (original) The device of claim 18 wherein the indication message is a real-time transport protocol (RTP) header.

20. (original) The device of claim 18 wherein the indication message received is a negative acknowledgment message.

21. (original) The device of claim 18 wherein the controller comprises means for determining the content of the at least one indication message.

(10) Evidence Appendix

Not applicable.

(11) Related Proceeding Appendix

Not applicable.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Harris et al.	EXAMINER:	Smith, Sheila B
SERIAL NO.:	10/647,424	GROUP:	2681
FILED:	08/25/2003	CASE NO.:	CE10278R
ENTITLED:	SYSTEM AND METHOD FOR CONTROLLING THE OPERATING CHARACTERISTICS OF A BUFFER		

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APPEAL BRIEF

Commissioner:

Pursuant to 37 C.F.R. §41.37, the appellants hereby respectfully submit the following Brief (in triplicate) in support of their appeal.

(1) Real Party in Interest

The real party in interest is Motorola, Inc.

(2) Related Appeals and Interferences

There are no related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1-13 and 18-21 are pending and presently stand twice and finally rejected and constitute the subject matter of this appeal. Claims 14-17 have been canceled.

(4) Status of Amendments

An Amendment was filed on February 21, 2006, after the Final Rejection mailed on December 14, 2005, canceling claims 14-17. The Advisory Action of April 21, 2006, indicates that this Amendment was considered but is ambiguous regarding whether the Amendment was entered. A phone call was made to the Examiner to confirm the entered status of canceled claims 14-17. The claims as thus amended are included in Appendix A attached hereto.

(5) Summary of Claimed Subject Matter

Embodiments of the present invention concern a method, such as that recited by claim 1, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth, playing the communications received at the play-out buffer to a recipient at the destination mobile unit, determining the remaining play-out depth of the play-out buffer in the destination mobile unit, and sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a method, such as that recited by claim 2, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the

method comprising encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate, receiving the indication from the destination mobile unit and adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a method, such as that recited by claim 6, of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit, receiving an indication from the destination mobile unit, and adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a system, such as that recited by claim 10, that comprises a source mobile unit transmitting voice communications, a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output, and a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a wireless transmission device, such as that recited by claim 18, that comprises a transceiver having an indication message input, a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input, a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input, and a controller that is operably coupled to the

storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register. (FIG. 4; [0047-0055])

(6) **Grounds of Rejection to be Reviewed on Appeal**

Claims 1-13 and 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477"). The appellants dispute these rejections.

(7) **Argument**

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §112, first paragraph

None.

Rejections under 35 U.S.C. §112, second paragraph

None.

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §103

Group 1 – Claims 1 and 4

Claim 1 provides (underlined language being relevant to the argument presented below):

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 1. '477 [0014] reads:

> [0014] Turning now to FIG. 1, a block diagram of a transmitter and receiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end, but for simplification, consider only a single transmitting and receiving pair for now. Transmitter 104 incorporates a buffer 108 with a variable delay designated D1 in the digital signal path that is controlled in a manner as will be described later. This buffer 108 can be at any suitable location within the digital signal path prior to wireless transmission over a VOIP air interface 112. At the receiver end, a receiver 116 incorporates a second buffer 120 that has a variable associated delay designated D2.

'477 [0020] reads (emphasis added):

> [0020] FIG. 2 illustrates a method 200 for monitoring and adjusting the soft capacity of the system to accommodate instantaneous excess packet transmission needs starting at 202. **This method assumes that the status of D2 buffers 120 is tracked (or alternatively fed back) and analyzed at the associated transmitter 104. Transmitter 104, using internal processing capabilities, then determines at 206 if there are any D2 buffers 120 that are near zero delay.** Near zero can be defined as a delay less than a predetermined threshold, e.g. 5 ms in the current example. If not, no action is taken. If so, a determination is made as to whether the delays are due to congestion at 210. If not, no action is taken. If so, a determination is made as to whether a slight temporary degradation of S/I+ N is acceptable to overcome the current congestion. If not, no action is taken. **If so, the associated packets are sent** to prevent D2 buffer 120 under-runs at 218. Control then returns to 206 and the status of the D2 buffers 120 is continuously

monitored to determine the need for adjustment in the soft capacity of the system. This method can be used in conjunction with other methods that do not impact the overall system's performance and can thus be balanced using prioritization arrangement in conjunction with other techniques.

'477 [0026] reads:

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. Vocoder 624 operates with its rate controlled by processor 620. In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.

The passages of '477 cited by the Examiner above clearly disclose that the **transmit-side determines whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 1 recites sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. Thus, the **transmit-side is sent an indication when a predetermined threshold is reached in the receive-side play-out buffer**. In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the transmit-side is sent an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 1, or therefore, all the limitations of dependent claim 4, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 1 and 4 are fully

patentable over the cited reference and request that the Examiner be REVERSED.

Group 2 – Claims 2, 3 and 5

The arguments in *Group 1* above are also applicable to claim 2, being dependent upon claim 1. Moreover, in addition to the assertions above, claim 2 provides (underlined language being relevant to the argument presented below):

> 2. (original) The method of claim 1 comprising:
>
> encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;
>
> receiving the indication from the destination mobile unit; and
>
> adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 2. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted below in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 2 recites (emphasis added), "**adjusting the coding rate** of the communications sent from the source mobile unit to the destination mobile unit **as a function, at least in part, of the indication received from the destination mobile unit**." Thus, since the indication indicates that the remaining play-out depth of the play-out buffer in the destination mobile unit has reached a predetermined threshold, the coding rate is adjusted as a function of the remaining play-out depth of the play-out buffer reaching the predetermined threshold. Therefore, the appellants submit that the disclosure of '477 neither teaches nor suggests what is claimed in claim 2.

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to

claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network**." The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 2 is clearly different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of claim 2, or therefore, all the limitations of dependent claims 3 and 5, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 2, 3 and 5 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 3 – Claims 6-9

Claim 6 provides (underlined language being relevant to the argument presented below):

> 6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:
>
> encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;
>
> <u>receiving an indication from the destination mobile unit; and</u>
>
> <u>adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 6. '477 [0020] is quoted above in the arguments under *Group 1*. '477 [0026-0027] reads (emphasis added):

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in

> a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. **Vocoder 624 operates with its rate controlled by processor 620.** In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.
>
> [0027] At the transceiver 616 (illustrated operating as the receiver side), a receiver 630 is coupled to buffer 120 that has variable delay D2. **The state of the link quality, status of D2 and other information can be fed back to transceiver 604 via transmitter 636 through air interface 112 to receiver 610.** (Note again that the voice buffer and other blocks associated with transmitter 636 are not shown for simplicity.) A control processor 650 at transceiver 616 operates in a manner similar to that of processor 620 in transmission mode and in receive mode receives the first packet in an utterance, decodes the value of D1 and calculates the amount of initial delay required to maintain a fixed delay for D1+D2. Alternatively, control processor 620 can make that calculation and transmit the initial value of D2 along with the first packet in an utterance (either as part of that packet or as a separate control packet).

The passages of '477 cited by the Examiner above describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 6 recites (emphasis added), "**adjusting the coding rate of the vocoder** in the source mobile unit **according to the indication received from the destination mobile unit.**"

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network**." The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for

changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 6 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 6, or therefore, all the limitations of dependent claims 7-9, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 6-9 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 4 – Claims 10-13

Claim 10 provides (underlined language being relevant to the argument presented below):

> 10. (original) A system comprising:
>
> a source mobile unit transmitting voice communications;
>
> a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and
>
> a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and <u>forming an indication when the play-out depth reaches a predetermined threshold</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 10. These paragraphs are quoted above in the arguments under *Group 1*.

The passages of '477 cited by the Examiner clearly disclose that the **<u>transmit-side determines</u> whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 10 recites

forming an indication when the play-out depth reaches a predetermined threshold. Thus, the **receive-side forms an indication when the play-out depth reaches a predetermined threshold.** In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the receive-side forms an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 10, or therefore, all the limitations of dependent claims 11-13, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 10-13 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 5 – Claims 18-21

Claim 18 provides (underlined language being relevant to the argument presented below):

> 18. (original) A wireless transmission device comprising:
>
> a transceiver having an indication message input;
>
> a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;
>
> a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and
>
> a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 18. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted above in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 18 recites (emphasis added), "a **vocoder** having a communication

output and a control input and further having an associated **adjustable vocoder coding rate that is responsive to the control input**; and a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller **forming a signal on the control input based upon contents of the at least one indication message** present in the storage register."

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network.**" The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 18 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 18, or therefore, all the limitations of dependent claims 19-21, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 18-21 are fully patentable over the cited reference and request that the Examiner be REVERSED.

(8) Conclusion

For the above reasons, the appellants respectfully submit that the rejection of claims 1-13 and 18-21 under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. is in error and should be reversed and the claims allowed.

Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc.**

Respectfully submitted,
J. Harris et al.

By: / Jeffrey K. Jacobs/

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(9) Claims Appendix

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

2. (original) The method of claim 1 comprising:

encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;

receiving the indication from the destination mobile unit; and

adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

3. (original) The method of claim 2 wherein adjusting the coding rate of the source mobile unit comprises adjusting the coding rate of a vocoder in the source mobile unit.

4. (original) The method of claim 1 wherein sending an indication comprises sending a real-time transport protocol (RTP) header.

5. (original) The method of claim 2 wherein receiving an indication comprises receiving a negative acknowledgment message for a frame.

6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:

encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;

receiving an indication from the destination mobile unit; and

adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit.

7. (original) The method of claim 6 wherein receiving an indication comprises receiving a real-time transport protocol (RTP) header.

8. (original) The method of claim 6 wherein receiving an indication comprises receiving a negative acknowledgment message.

9. (original) The method of claim 8 wherein receiving the indication comprises receiving the NAK that originated because of a request for retransmission for a frame that was originally sent more than a threshold number of seconds in the past.

10. (original) A system comprising:

a source mobile unit transmitting voice communications;

a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and

a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold.

11. (original) The system of claim 10 wherein the indication formed in the destination mobile unit is a real-time transport protocol (RTP) header.

12. (original) The system of claim 10 wherein the wireless infrastructure forms a negative acknowledgment message that is passed to the source mobile unit.

13. (original) The system of claim 10 comprising a supplemental communication channel from the destination mobile unit to the wireless infrastructure and wherein the indication is sent over the supplemental communication channel to the infrastructure and from the infrastructure to the source mobile unit.

14-17. (canceled)

18. (original) A wireless transmission device comprising:

a transceiver having an indication message input;

a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;

a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and

a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

19. (original) The device of claim 18 wherein the indication message is a real-time transport protocol (RTP) header.

20. (original) The device of claim 18 wherein the indication message received is a negative acknowledgment message.

21. (original) The device of claim 18 wherein the controller comprises means for determining the content of the at least one indication message.

(10) Evidence Appendix

Not applicable.

(11) Related Proceeding Appendix

Not applicable.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Harris et al.	EXAMINER:	Smith, Sheila B
SERIAL NO.:	10/647,424	GROUP:	2681
FILED:	08/25/2003	CASE NO.:	CE10278R
ENTITLED:	SYSTEM AND METHOD FOR CONTROLLING THE OPERATING CHARACTERISTICS OF A BUFFER		

Motorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196
July 13, 2006

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF

Commissioner:

Pursuant to 37 C.F.R. §41.37, the appellants hereby respectfully submit the following Brief (in triplicate) in support of their appeal.

(1) Real Party in Interest

The real party in interest is Motorola, Inc.

(2) Related Appeals and Interferences

There are no related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1-13 and 18-21 are pending and presently stand twice and finally rejected and constitute the subject matter of this appeal. Claims 14-17 have been canceled.

(4) Status of Amendments

An Amendment was filed on February 21, 2006, after the Final Rejection mailed on December 14, 2005, canceling claims 14-17. The Advisory Action of April 21, 2006, indicates that this Amendment was considered but is ambiguous regarding whether the Amendment was entered. A phone call was made to the Examiner to confirm the entered status of canceled claims 14-17. The claims as thus amended are included in Appendix A attached hereto.

(5) Summary of Claimed Subject Matter

Embodiments of the present invention concern a method, such as that recited by claim 1, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth, playing the communications received at the play-out buffer to a recipient at the destination mobile unit, determining the remaining play-out depth of the play-out buffer in the destination mobile unit, and sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a method, such as that recited by claim 2, for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the

method comprising encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate, receiving the indication from the destination mobile unit and adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a method, such as that recited by claim 6, of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit, receiving an indication from the destination mobile unit, and adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit. (FIG. 1; [0020-0026])

Embodiments of the present invention concern a system, such as that recited by claim 10, that comprises a source mobile unit transmitting voice communications, a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output, and a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold. (FIG. 1; [0020-0023])

Embodiments of the present invention concern a wireless transmission device, such as that recited by claim 18, that comprises a transceiver having an indication message input, a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input, a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input, and a controller that is operably coupled to the

storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register. (FIG. 4; [0047-0055])

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-13 and 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477"). The appellants dispute these rejections.

(7) Argument

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §112, first paragraph

None.

Rejections under 35 U.S.C. §112, second paragraph

None.

Rejections under 35 U.S.C. §102

None.

Rejections under 35 U.S.C. §103

Group 1 – Claims 1 and 4

Claim 1 provides (underlined language being relevant to the argument presented below):

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 1. '477 [0014] reads:

> [0014] Turning now to FIG. 1, a block diagram of a transmitter and receiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end, but for simplification, consider only a single transmitting and receiving pair for now. Transmitter 104 incorporates a buffer 108 with a variable delay designated D1 in the digital signal path that is controlled in a manner as will be described later. This buffer 108 can be at any suitable location within the digital signal path prior to wireless transmission over a VOIP air interface 112. At the receiver end, a receiver 116 incorporates a second buffer 120 that has a variable associated delay designated D2.

'477 [0020] reads (emphasis added):

> [0020] FIG. 2 illustrates a method 200 for monitoring and adjusting the soft capacity of the system to accommodate instantaneous excess packet transmission needs starting at 202. **This method assumes that the status of D2 buffers 120 is tracked (or alternatively fed back) and analyzed at the associated transmitter 104. Transmitter 104, using internal processing capabilities, then determines at 206 if there are any D2 buffers 120 that are near zero delay.** Near zero can be defined as a delay less than a predetermined threshold, e.g. 5 ms in the current example. If not, no action is taken. If so, a determination is made as to whether the delays are due to congestion at 210. If not, no action is taken. If so, a determination is made as to whether a slight temporary degradation of S/I+ N is acceptable to overcome the current congestion. If not, no action is taken. **If so, the associated packets are sent** to prevent D2 buffer 120 under-runs at 218. Control then returns to 206 and the status of the D2 buffers 120 is continuously

monitored to determine the need for adjustment in the soft capacity of the system. This method can be used in conjunction with other methods that do not impact the overall system's performance and can thus be balanced using prioritization arrangement in conjunction with other techniques.

'477 [0026] reads:

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. Vocoder 624 operates with its rate controlled by processor 620. In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.

The passages of '477 cited by the Examiner above clearly disclose that the **transmit-side determines whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 1 recites sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold. Thus, the **transmit-side is sent an indication when a predetermined threshold is reached in the receive-side play-out buffer**. In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the transmit-side is sent an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 1, or therefore, all the limitations of dependent claim 4, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 1 and 4 are fully

patentable over the cited reference and request that the Examiner be REVERSED.

Group 2 – Claims 2, 3 and 5

The arguments in *Group 1* above are also applicable to claim 2, being dependent upon claim 1. Moreover, in addition to the assertions above, claim 2 provides (underlined language being relevant to the argument presented below):

> 2. (original) The method of claim 1 comprising:
>
> encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;
>
> receiving the indication from the destination mobile unit; and
>
> adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 2. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted below in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 2 recites (emphasis added), "**adjusting the coding rate** of the communications sent from the source mobile unit to the destination mobile unit **as a function, at least in part, of the indication received from the destination mobile unit**." Thus, since the indication indicates that the remaining play-out depth of the play-out buffer in the destination mobile unit has reached a predetermined threshold, the coding rate is adjusted as a function of the remaining play-out depth of the play-out buffer reaching the predetermined threshold. Therefore, the appellants submit that the disclosure of '477 neither teaches nor suggests what is claimed in claim 2.

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to

claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network.**" The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 2 is clearly different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of claim 2, or therefore, all the limitations of dependent claims 3 and 5, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 2, 3 and 5 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 3 – Claims 6-9

Claim 6 provides (underlined language being relevant to the argument presented below):

> 6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:
>
> encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;
>
> <u>receiving an indication from the destination mobile unit; and</u>
>
> <u>adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 6. '477 [0020] is quoted above in the arguments under *Group 1*. '477 [0026-0027] reads (emphasis added):

> [0026] Turning now to FIG. 6, a more detailed block diagram of a transceiver pair used in

a CDMA VOIP system with associated buffers consistent with certain embodiments of the present invention is illustrated. In a two-way communication VOIP CDMA system, a transmitter and a receiver is present at each end. This is illustrated in a transceiver 604 coupled to transceiver 616. Transceiver 604 (operating as the transmitting side) incorporates a transmitter 606 and a receiver 610. (Note that the voice buffer and other blocks associated with receiver 610 are not shown in the diagram for simplicity.) Transceiver 604 also incorporates buffer 108 with a variable delay designated D1 in the digital signal path that is controlled by a control processor 620. This buffer 108 receives VOIP format packets of voice from vocoder 624. **Vocoder 624 operates with its rate controlled by processor 620.** In accordance with one embodiment consistent with the present invention, processor 620 encodes the first packet of an utterance with an indication of the delay D1 of buffer 108 and that packet is transmitted along with the other packets making up the utterance over the VOIP air interface 112 to transceiver 616. Control processor 620 receives input regarding (or alternatively tracks) the D2 buffer states of transceiver 616 as well as other receivers, information regarding network congestion, link quality information, real- time and non-real time traffic information and overall system C/N+I information. The control processor 620 is also programmed with short-term network capacity targets and other information.

[0027] At the transceiver 616 (illustrated operating as the receiver side), a receiver 630 is coupled to buffer 120 that has variable delay D2. **The state of the link quality, status of D2 and other information can be fed back to transceiver 604 via transmitter 636 through air interface 112 to receiver 610.** (Note again that the voice buffer and other blocks associated with transmitter 636 are not shown for simplicity.) A control processor 650 at transceiver 616 operates in a manner similar to that of processor 620 in transmission mode and in receive mode receives the first packet in an utterance, decodes the value of D1 and calculates the amount of initial delay required to maintain a fixed delay for D1+D2. Alternatively, control processor 620 can make that calculation and transmit the initial value of D2 along with the first packet in an utterance (either as part of that packet or as a separate control packet).

The passages of '477 cited by the Examiner above describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 6 recites (emphasis added), "**adjusting the coding rate of the vocoder** in the source mobile unit **according to the indication received from the destination mobile unit.**"

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network.**" The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for

changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 6 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 6, or therefore, all the limitations of dependent claims 7-9, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 6-9 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 4 – Claims 10-13

Claim 10 provides (underlined language being relevant to the argument presented below):

> 10. (original) A system comprising:
>
> a source mobile unit transmitting voice communications;
>
> a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and
>
> a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and <u>forming an indication when the play-out depth reaches a predetermined threshold</u>.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0014, 0020, and 0026] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") in the rejection of claim 10. These paragraphs are quoted above in the arguments under *Group 1*.

The passages of '477 cited by the Examiner clearly disclose that the **<u>transmit-side determines</u> whether any D2 buffers are near zero delay**. To do this, it is assumed that the status of the D2 buffers are tracked (or alternatively fed back). In contrast, claim 10 recites

forming an indication when the play-out depth reaches a predetermined threshold. Thus, the **receive-side forms an indication when the play-out depth reaches a predetermined threshold**. In other words, the transmit-side is not tracking the status of the D2 buffers in order to make a determination (as in the passages of '477 cited by the Examiner above) but rather the receive-side forms an indication when the predetermined threshold is reached.

Since '477 does not teach all of the limitations of independent claim 10, or therefore, all the limitations of dependent claims 11-13, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 10-13 are fully patentable over the cited reference and request that the Examiner be REVERSED.

Group 5 – Claims 18-21

Claim 18 provides (underlined language being relevant to the argument presented below):

> 18. (original) A wireless transmission device comprising:
>
> a transceiver having an indication message input;
>
> a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;
>
> a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and
>
> a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

In the Final Office Action mailed December 14, 2005 (hereinafter "FOA"), the Examiner cites paragraphs [0020, 0026, and 0027] of D'Amico et al. (U.S. Patent Application Publication Number 2004/0001477, hereinafter "'477") as relevant to the rejection of claim 18. '477 [0020] is quoted above in the arguments under *Group 1*, '477 [0026-0027] are quoted above in the arguments under *Group 3*.

These passages of '477 describe a vocoder with its rate controlled by a processor ([0026]) and sending **packets** to prevent D2 buffer under-runs when the proper conditions are met ([0020]). In contrast, claim 18 recites (emphasis added), "a **vocoder** having a communication

output and a control input and further having an associated **adjustable vocoder coding rate that is responsive to the control input**; and a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller **forming a signal on the control input based upon contents of the at least one indication message** present in the storage register."

In the Examiner's *Response to Arguments* section of the FOA, the Examiner also refers to claim 2 of '477, which recites (emphasis added) "a vocoder that digitally encodes speech signals at a specified vocoder rate; and means for adjusting the vocoder rate **based upon a measure of traffic loading of the wireless network.**" The appellants recognize that changing a vocoder's rate is well-known; however, the appellants submit that not all of the reasons / triggers for changing a vocoder rate or for determining / re-determining a vocoder's rate are known. As cited by the Examiner, '477 teaches adjusting the vocoder rate based upon a measure of traffic loading of the wireless network. The appellants submit that what is claimed in claim 18 is different from and is not suggested by the teachings cited in '477.

Since '477 does not teach all of the limitations of independent claim 18, or therefore, all the limitations of dependent claims 19-21, it is asserted that neither anticipation nor a prima facie case for obviousness has been shown by the Examiner. Appellants submit that claims 18-21 are fully patentable over the cited reference and request that the Examiner be REVERSED.

(8) Conclusion

For the above reasons, the appellants respectfully submit that the rejection of claims 1-13 and 18-21 under 35 U.S.C. § 103(a) as being unpatentable over D'Amico et al. is in error and should be reversed and the claims allowed.

Lastly, please charge any additional fees (including extension of time fees) or credit overpayment to Deposit Account No. **502117 -- Motorola, Inc.**

Respectfully submitted,
J. Harris et al.

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(9) Claims Appendix

1. (original) A method for regulating a remaining play-out depth of a play-out buffer in a destination mobile unit, the method comprising:

receiving at least one communication from a source mobile unit in a play-out buffer, the play-out buffer having an associated play-out depth;

playing the communications received at the play-out buffer to a recipient at the destination mobile unit;

determining the remaining play-out depth of the play-out buffer in the destination mobile unit; and

sending an indication to the source mobile unit when the remaining play-out depth of the play-out buffer in the destination mobile unit reaches a predetermined threshold.

2. (original) The method of claim 1 comprising:

encoding and transmitting the communications from the source mobile unit to the destination mobile unit at a coding rate;

receiving the indication from the destination mobile unit; and

adjusting the coding rate of the communications sent from the source mobile unit to the destination mobile unit as a function, at least in part, of the indication received from the destination mobile unit.

3. (original) The method of claim 2 wherein adjusting the coding rate of the source mobile unit comprises adjusting the coding rate of a vocoder in the source mobile unit.

4. (original) The method of claim 1 wherein sending an indication comprises sending a real-time transport protocol (RTP) header.

5. (original) The method of claim 2 wherein receiving an indication comprises receiving a negative acknowledgment message for a frame.

6. (original) A method of regulating a coding rate of communications transmitted from a source wireless unit to a destination wireless unit, the method comprising:

encoding communications in a vocoder at the source mobile unit at a coding rate and transmitting the communications to the destination unit;

receiving an indication from the destination mobile unit; and

adjusting the coding rate of the vocoder in the source mobile unit according to the indication received from the destination mobile unit.

7. (original) The method of claim 6 wherein receiving an indication comprises receiving a real-time transport protocol (RTP) header.

8. (original) The method of claim 6 wherein receiving an indication comprises receiving a negative acknowledgment message.

9. (original) The method of claim 8 wherein receiving the indication comprises receiving the NAK that originated because of a request for retransmission for a frame that was originally sent more than a threshold number of seconds in the past.

10. (original) A system comprising:

a source mobile unit transmitting voice communications;

a wireless infrastructure coupled to the source mobile unit, the infrastructure receiving the voice communications from the source mobile unit and presenting the voice communications at an output; and

a destination mobile unit coupled to the wireless infrastructure at an output of the wireless infrastructure, the destination mobile unit receiving the voice communications from the infrastructure, the destination mobile unit comprising a play-out buffer, the play-out buffer having an associated play-out depth, the destination wireless unit storing the voice communications in the play-out buffer and forming an indication when the play-out depth reaches a predetermined threshold.

11. (original) The system of claim 10 wherein the indication formed in the destination mobile unit is a real-time transport protocol (RTP) header.

12. (original) The system of claim 10 wherein the wireless infrastructure forms a negative acknowledgment message that is passed to the source mobile unit.

13. (original) The system of claim 10 comprising a supplemental communication channel from the destination mobile unit to the wireless infrastructure and wherein the indication is sent over the supplemental communication channel to the infrastructure and from the infrastructure to the source mobile unit.

14-17. (canceled)

18. (original) A wireless transmission device comprising:

a transceiver having an indication message input;

a storage register coupled to the transceiver, the storage register storing at least one indication message received by the transceiver at the indication message input;

a vocoder having a communication output and a control input and further having an associated adjustable vocoder coding rate that is responsive to the control input; and

a controller that is operably coupled to the storage register and coupled to the vocoder by the control input, the controller forming a signal on the control input based upon contents of the at least one indication message present in the storage register.

19. (original) The device of claim 18 wherein the indication message is a real-time transport protocol (RTP) header.

20. (original) The device of claim 18 wherein the indication message received is a negative acknowledgment message.

21. (original) The device of claim 18 wherein the controller comprises means for determining the content of the at least one indication message.

(10) Evidence Appendix

Not applicable.

(11) Related Proceeding Appendix

Not applicable.